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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,781	09/29/2000	Hyun Ki Choi	P-133	2258
34610	7590	12/17/2003		
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153				
			EXAMINER CHOW, CHARLES CHIANG	
			ART UNIT 2685	PAPER NUMBER

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/672,781

Applicant(s)

CHOI ET AL.

Examiner

Charles Chow

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

**Office Action for  
Applicant's Amendment  
Received on 8/13/2003**

1. Regarding applicant's modification in the specification, it has been entered.
2. Regarding applicant's amendment based on the no teachings for the antenna is formed by a plurality of wires, the ground of rejection has been changed to include Moren et al. (US 2002/0000,940 A1).

Regarding the antenna is formed by a plurality of wires, Moren teaches antenna radiation element 20, for radio communication device, having meander patterns as shown in Fig. 1-4, Fig. 11, [0041]. Moren teaches the improved efficient, small, flat, low cost antenna for a small radio communication device [0004-0007], such that the radio transceiver device can have flat, small, low cost antenna arrangement for a small radio communication device.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14-18, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US 6,181,283 B1) in view of Miller (US 4,593,409), and further in view of Moren et al. (US 2002/0000,940 A1).

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Regarding **claim 14**, Johnson et al. ("Johnson") teaches battery 20 located within detachable assembly 16 (Fig. 3) of the wireless communication device 12 (title, abstract, figure in cover page; col. 3, line 13 to col. 4, line 19, Fig. 1-3).

Johnson teaches the antenna assembly 30 (Fig. 3) is electrically connected with a mobile phone main body 14 (Fig. 3 and col. 4, line 33 to col. 5, line 11), and the antenna assembly 30 is at a predetermined upper position adjacent to the battery cell 20 (Fig. 3, col. 4, lines 33-45).

Johnson does not teach the antenna positioned within the battery pack.

Miller teaches an antenna positioned within the battery cell (Miller teaches a two-way portable transceiver system 10 with removable battery pack and antenna 18, title, abstract, figure in cover page, summary of invention). The transceiver system 10 comprises a battery enclosure 20 (figure in cover page) with the antenna 18 positioned inside the battery enclosure 20 (col. 3, lines 22-23) such that the operable condition of the antenna could be warned to user (col. 1, lines 6-15; col. 2, lines 14-18), using the ser sensor 42 and power sensor 44. Miller teaches the technique for having the antenna positioned within the battery cell package, such that the system could be upgraded to operate efficiently with the functioning antenna having the malfunctioning detection method, SWR sensor 40 and power sensor 44. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Johnson's wireless device 12 and to include Miller's antenna inside the battery cell package with the malfunctioning detection means, SWR sensor 40 and power sensor 44, such that the system could be upgraded to operate efficiently with the operable antenna.

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Johnson and Miller do not clearly teach the details for the antenna is formed by plurality of wires.

Moren et al. ("Moren") teaches the antenna is formed of two wires with meander patterns (as shown in Fig. 1-12, [0039-0041]). Moren teaches the improved efficient, small, flat, low cost antenna for a small radio communication device [0004-0007], such that the radio transceiver device can has efficient, small, low cost antenna arrangement for a small communication device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Johnson above, and to include Moren's meander antenna with two wires, such that the mobile device could have efficient antenna arrangement with two wires.

Regarding **claim 15**, Johnson teaches a dielectric substance or a space exists between the antenna and the battery cell (as shown in col. 4, line 51-64, Fig. 3, the dielectric layer 112, the radiation absorbing layer 116, in between serpentine antenna element 110 and the detachable assembly 16).

Regarding **claim 16**, Johnson teaches the patch antenna 130 (Fig. 5) is positioned at an upper portion of the battery cell assembly 16.

Regarding **claim 17**, Johnson teaches (Fig. 3), the antenna is positioned at the back side portion of the battery cell assembly.

Regarding **claim 18**, Johnson discloses the side portion of the battery cell is the outer side of the battery, as shown in Fig. 1, the dipole 72 is located on the outer side of the battery assembly 16.

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Regarding **claim 20**, Johnson teaches the linear, zigzag shape for the antenna, as shown in Fig. 3, the dipole antennas, Z-shaped driven antenna element 110, on the battery assembly pack 16.

***Conclusion***

4. Applicant's arguments with respect to claims 14-18, 20 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Hunter, can be reached at (703)-308-6732.

Any response to this action should be mailed to:

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Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the Technology Center 2600 Customer Service Office  
whose telephone number is (703) 306-0377.

Charles Chow *C.C.*

December 08, 2003.



**QUOCHIEN B. VUONG**  
**PRIMARY EXAMINER**